



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-0248; Directorate Identifier 2014-NM-143-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede Airworthiness Directive (AD) 2013-08-23, which applies to all The Boeing Company Model DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F (KC-10A and KDC-10), DC-10-40, DC-10-40F, MD-10-10F, MD-10-30F, MD-11, and MD-11F airplanes. AD 2013-08-23 currently requires adding design features to detect electrical faults and to detect a pump running in an empty fuel tank. Since we issued AD 2013-08-23, we have determined that it is necessary to clarify the requirements for the design features and to remove a terminating action for certain inspections. This proposed AD would clarify certain requirements and remove a terminating action. This proposed AD would also provide an optional method of compliance for the proposed actions. We are proposing this AD to reduce the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach, CA 90846-0001; telephone 206-544-5000, extension 2; fax 206-766-5683; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-0248.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-0248; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Serj Harutunian, Aerospace Engineer, Propulsion Branch, ANM-140L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, California 90712-4137; phone: 562-627-5254; fax: 562-627-5210; email: serj.harutunian@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-0248; Directorate Identifier 2014-NM-143-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On April 10, 2013, we issued AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013), for all The Boeing Company Model DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F (KC-10A and KDC-10), DC-10-40, DC-10-40F, MD-10-10F, MD-10-30F, MD-11, and MD-11F airplanes. AD 2013-08-23 requires adding design features to detect electrical faults and to detect a pump running in an empty fuel tank. AD 2013-08-23 resulted from fuel system reviews conducted by the manufacturer. We issued AD 2013-08-23 to reduce the potential of ignition sources

inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

Actions Since AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013), Was Issued

Since we issued AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013), we have determined that it is necessary to clarify the requirements for the design features and to remove a terminating action for certain inspections. In addition, The Boeing Company has issued new service information, which provides optional alternative methods of compliance for the actions required by AD 2013-08-23.

Related Service Information under 1 CFR part 51

We reviewed the following service information, which describes procedures for changing the fuel pump control and indication system wiring:

- Boeing Service Bulletin DC10-28-256, dated June 24, 2014; and
- Boeing Service Bulletin MD11-28-137, dated June 24, 2014.

We have also reviewed Appendixes B, C, and D of Boeing Special Compliance Item Report MDC-02K1003, Revision M, dated July 25, 2014, which include Critical Design Configuration Control Limitations (CDCCLs), Airworthiness Limitations Instructions (ALIs), and short-term extensions.

Boeing Service Bulletin MD11-28-137, dated June 24, 2014, specifies prior or concurrent accomplishment of Boeing Alert Service Bulletin MD11-28A133, dated June 5, 2014. Boeing Alert Service Bulletin MD11-28A133, dated June 5, 2014, describes procedures for replacing the fuel pump control relays with fault current detectors and changing the fuel tank boost/transfer pump wire termination.

Boeing Service Bulletin DC10-28-256, dated June 24, 2014, specifies prior or concurrent accomplishment of Boeing Alert Service Bulletin DC10-28A253, dated June 5, 2014. Boeing Alert Service Bulletin DC10-28A253, dated June 5, 2014, describes procedures for replacing the fuel pump control relays with fault current detectors and changing the fuel tank boost/transfer pump wire termination.

This service information is reasonably available; see ADDRESSES for ways to

access this service information.

Clarification of the Requirements for the Design Features

In the introductory text of paragraph (g) of this proposed AD, we have added the text “for the auxiliary fuel tank” to the last sentence to clarify that, for airplanes on which Boeing-installed auxiliary fuel tanks are removed, only the actions specified in this AD for the auxiliary fuel tanks are not required.

In paragraph (g)(1) of this proposed AD, we have added the text “and each pump that is partially covered by a lowering fuel level” and “main tanks” to the first sentence to clarify the pumps that must have a protective device installed.

Removal of a Terminating Action for Certain Actions

Paragraph (h) of AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013), specifies, in part, that accomplishing the actions required by paragraph (g)(1) of that AD terminates certain inspections and tests required by paragraph (a) of AD 2002-13-10, Amendment 39-12798 (67 FR 45053, July 8, 2002), and repetitive inspections required by paragraph (j) of AD 2011-11-05, Amendment 39-16704 (76 FR 31462, June 1, 2011), for pumps affected by those ADs. However, we have determined that accomplishing the actions required by paragraph (g)(1) of AD 2013-08-23 (which is restated in paragraph (g)(1) of this proposed AD) does not terminate those actions and, therefore, we have not retained the terminating action in this proposed AD. The actions specified in paragraph (h) of this proposed AD (i.e., a new optional method of compliance in lieu of paragraph (g) of this proposed AD) would extend the compliance times for certain inspections and tests required by paragraph (a) of AD 2002-13-10, and repetitive inspections required by paragraph (j) of AD 2011-11-05, from 18-month intervals to 24-month intervals. We have added paragraph (j) to this proposed AD to specify that accomplishing the actions in paragraph (h) of this proposed AD would extend certain repetitive intervals.

Revised Compliance Time

We have determined that it is appropriate to allow additional time to accomplish the design features and requirements specified in this proposed AD. Therefore, we have added a compliance time “as of 48 months after the effective date of this AD” to paragraph (g) of this proposed AD. We have determined that this extension of the compliance time will provide an acceptable level of safety.

Related AD

On November 12, 2009, we issued AD 2008-06-21 R1, Amendment 39-16100 (74 FR 61504, November 25, 2009), for all McDonnell Douglas Corporation Model DC-10-10 and DC-10-10F airplanes, Model DC-10-15 airplanes, Model DC-10-30 and DC-10-30F (KC-10A and KDC-10) airplanes, Model DC-10-40 and DC-10-40F airplanes, Model MD-10-10F and MD-10-30F airplanes, and Model MD-11 and MD-11F airplanes. AD 2008-06-21 R1 requires revising the maintenance program or the Airworthiness Limitations (AWLs) section of the Instructions for Continued Airworthiness to incorporate inspections and CDCCLs.

FAA’s Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

Proposed AD Requirements

This proposed AD would retain certain requirements of AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013), clarify certain requirements, and remove a certain terminating action. This proposed AD would also provide a new optional method of compliance for the actions required by AD 2013-08-23.

This proposed AD specifies to revise certain operator maintenance documents to include new actions (e.g., inspections) and Critical Design Configuration Control

Limitations (CDCCLs). Compliance with these actions and CDCCLs is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by this proposed AD, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (k) of this proposed AD. The request should include a description of changes to the required actions and CDCCLs that will ensure the continued operational safety of the airplane.

Costs of Compliance

We estimate that this proposed AD affects 341 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Installing design features using a method approved by the FAA [retained action from AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013)]	152 work-hours X \$85 per hour = \$12,920	\$137,500	\$150,420	\$51,923,220
Installing design features using service information specified in paragraph (h) of this proposed AD (including revising the maintenance/inspection program) [new option of this proposed AD]	98 work-hours X \$85 per hour = \$8,330	\$109,000	\$117,330	\$40,478,850

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator.

Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013), and adding the following new AD:

The Boeing Company: Docket No. FAA-2015-0248; Directorate Identifier 2014-NM-143-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

- (1) This AD replaces AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013).
- (2) This AD affects AD 2008-06-21 R1, Amendment 39-16100 (74 FR 61504, November 25, 2009).
- (3) This AD affects AD 2002-13-10, Amendment 39-12798 (67 FR 45053, July 8, 2002).
- (4) This AD affects AD 2011-11-05, Amendment 39-16704 (76 FR 31462, June 1, 2011).

(c) Applicability

This AD applies to all The Boeing Company Model airplanes identified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category.

(1) DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F (KC-10A and KDC-10), DC-10-40, DC-10-40F airplanes.

(2) MD-10-10F, MD-10-30F, MD-11, and MD-11F airplanes.

(d) Subject

Air Transport Association (ATA) of America Code 28, Fuel.

(e) Unsafe Condition

This AD was prompted by a fuel system review conducted by the manufacturer. We are issuing this AD to reduce the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Criteria for Operation, with Clarifications and New Compliance Time

This paragraph restates the actions required by paragraph (g) of AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013), with clarification of actions for airplanes with auxiliary fuel tanks removed, clarification of the pumps that must have a protective device installed, and a new compliance time. Except as provided by paragraph (h) of this AD: As of 48 months after the effective date of this AD, no person may operate any airplane affected by this AD unless an amended type certificate or supplemental type certificate that incorporates the design features and requirements described in paragraphs (g)(1) through (g)(4) of this AD has been approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA, and those design features are installed on the airplane to meet the criteria specified in 14 CFR Section

25.981(a) and (d), at Amendment level 25-125. For airplanes on which Boeing-installed auxiliary fuel tanks are removed, the actions specified in this AD for the auxiliary fuel tanks are not required.

(1) For all airplanes: Each electrically powered alternating current (AC) fuel pump installed in any fuel tank that normally empties during flight and each pump that is partially covered by a lowering fuel level – such as main tanks, center wing tanks, auxiliary fuel tanks installed by the airplane manufacturer, and tail tanks – must have a protective device installed to detect electrical faults that can cause arcing and burn through of the fuel pump housing and pump electrical connector. The same device must shut off the pump by automatically removing electrical power from the pump when such faults are detected. When a fuel pump is shut off resulting from detection of an electrical fault, the device must stay latched off, until the fault is cleared through maintenance action and the pump is verified safe for operation.

(2) For airplanes with a 2-person flight crew: Additional design features, if not originally installed by the airplane manufacturer, must be installed to meet 3 criteria: To detect a running fuel pump in a tank that is normally emptied during flight, to provide an indication to the flight crew that the tank is empty, and to automatically shut off that fuel pump. The prospective pump indication and shutoff system must automatically shut off each pump in case the flight crew does not shut off a pump running dry in an empty tank within 60 seconds after each fuel tank is emptied. An airplane flight manual supplement (AFMS) that includes flight crew manual pump shutoff procedures in the Limitations Section of the AFMS must be submitted to the Los Angeles ACO, FAA, for approval.

(3) For airplanes with a 3-person flight crew: Additional design features, if not originally installed by the airplane manufacturer, must be installed to detect when a fuel pump in a tank that is normally emptied during flight is running in an empty fuel tank, and provide an indication to the flight crew that the tank is empty. The flight engineer

must manually shut off each pump running dry in an empty tank within 60 seconds after the tank is emptied. The AFMS Limitations section must be revised to specify that this pump shutoff must be done by the flight engineer.

(4) For all airplanes with tanks that normally empty during flight: Separate means must be provided to detect and shut off a pump that was previously commanded to be shut off automatically or manually but remained running in an empty tank during flight.

(h) New Optional Method of Compliance

In lieu of doing the requirements of paragraph (g) of this AD, do the applicable actions specified in paragraphs (h)(1), (h)(2), and (h)(3) of this AD.

(1) For MD-11 and MD-11F airplanes: Do the actions specified in paragraphs (h)(1)(i) and (h)(1)(ii) of this AD.

(i) As of 48 months after the effective date of this AD, change the fuel pump control and indication system wiring, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin MD11-28-137, dated June 24, 2014.

(ii) Prior to or concurrently with accomplishing the actions specified in paragraph (h)(1)(i) of this AD: Replace the fuel pump control relays with fault current detectors, and change the fuel tank boost/transfer pump wire termination, in accordance with Accomplishment Instructions of Boeing Alert Service Bulletin MD11-28A133, dated June 5, 2014.

(2) For Model DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F (KC-10A and KDC-10), DC-10-40, DC-10-40F, MD-10-10F, and MD-10-30F airplanes: Do the actions specified in paragraphs (h)(2)(i) and (h)(2)(ii) of this AD.

(i) As of 48 months after the effective date of this AD, change the fuel pump control and indication system wiring, in accordance with the Accomplishment Instructions of Boeing Service Bulletin DC10-28-256, dated June 24, 2014.

(ii) Prior to or concurrently with accomplishing the actions specified in paragraph (h)(2)(i) of this AD: Replace the fuel pump control relays with fault current detectors, and change the fuel tank boost/transfer pump wire termination, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin DC10-28A253, dated June 5, 2014.

(3) For all airplanes: Within 30 days after accomplishing the actions required by paragraph (h)(1) or (h)(2) of this AD, or within 30 days after the effective date of this AD, whichever occurs later, revise the maintenance or inspection program, as applicable, to incorporate the Critical Design Configuration Control Limitations (CDCCLs), Airworthiness Limitations Instructions (ALIs), and short-term extensions specified in Appendix B, C, and D of Special Compliance Item (SCI) Report MDC-02K1003, Revision M, dated July 25, 2014. The initial compliance time for accomplishing the actions specified in the ALIs is at the later of the times specified in paragraphs (h)(3)(i) and (h)(3)(ii) of this AD. Revising of the maintenance or inspection program required by this paragraph terminates the requirements in paragraph (g) and (h) of AD 2008-06-21 R1, Amendment 39-16100 (74 FR 61504, November 25, 2009).

(i) At the applicable time specified in Appendix C of SCI Report MDC-02K1003, Revision M, dated July 25, 2014, except as provided by Appendix D of SCI Report MDC-02K1003, Revision M, dated July 25, 2014.

(ii) Within 30 days after accomplishing the actions required by paragraph (h)(1) or (h)(2) of this AD, or within 30 days after the effective date of this AD, whichever occurs later.

(i) No Alternative Actions, Intervals, or CDCCLs

If the option in paragraph (h)(3) of this AD is accomplished: After the maintenance or inspection program has been revised, as provided by paragraph (h)(3) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs may be used

unless the actions, intervals, or CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (k) of this AD.

(j) Compliance Time Extension in Related ADs

Accomplishment of the actions specified in paragraphs (h)(1), (h)(2), and (h)(3) of this AD, as applicable, extends the 18-month repetitive inspections and tests required by paragraph (a) of AD 2002-13-10, Amendment 39-12798 (67 FR 45053, July 8, 2002), and the 18-month repetitive inspections required by paragraph (j) of AD 2011-11-05, Amendment 39-16704 (76 FR 31462, June 1, 2011), to 24-month intervals for pumps affected by those ADs, regardless if the pump is installed in a tank that normally empties, provided the remaining actions required by those two ADs have been accomplished.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (l)(1) of this AD. Information may be emailed to: 9-ANM-LAACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO, to make those findings. For a repair method to be approved, the repair

must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved for AD 2013-08-23, Amendment 39-17441 (78 FR 24037, April 24, 2013), are approved as AMOCs for the corresponding provisions of this AD.

(I) Related Information

(1) For more information about this AD, contact Serj Harutunian, Aerospace Engineer, Propulsion Branch, ANM-140L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, California 90712-4137; phone: 562-627-5254; fax: 562-627-5210; email: serj.harutunian@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach, CA 90846-0001; telephone 206-544-5000, extension 2; fax 206-766-5683; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on February 11, 2015.

Jeffrey E. Duven,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 2015-06746 Filed: 3/26/2015 08:45 am; Publication Date: 3/27/2015]